Two New Species of British Turrids

BY

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(Plate 1; 5 Text figures)

The present classification of the Turridae is based almost entirely on shell characters. The weakness of such a classification, however, has been clearly demonstrated during a recent study of the turrids of the Clyde Sea Area, Scotland in which almost identical shells were found to "house" radically differing animals. Thus, while some specimens of "*Philbertia leufroyi boothi* (Smith, 1839)" from the Clyde Sea Area possess the usual complement of radula, poison gland and salivary glands, others, almost indistinguishable conchologically, were found without any trace of these structures. A second, apparently undescribed, turrid from the same area was found to lack these structures. It is considered that these findings warrant the creation of a new genus and of two new species.

Cenodagreutes E. H. Smith, gen. nov.

Type species: *Cenodagreutes aethus* spec. nov.

The shell characters are similar to those of *Philbertia* (see esp. Thiele, 1931, p. 370), and as in that genus, the operculum is absent. Internally, however, it can be distinguished from *Philbertia,* and probably from all other genera of British turrids (E. H. Smith, 1967), by the absence of the radula, poison gland, and salivary glands.

Etymology: The generic name *Cenodagreutes* is derived from the Greek κενοδοντις, toothless, and αγρευτης, the hunter, meaning the "toothless hunter", alluding to the lack of radular teeth.

Cenodagreutes aethus E. H. Smith, spec. nov.

(Plate 1, Figures 1 and 2; Text figures 1 to 3)

Shell: The shell is small (7 mm in length), fusiform, has a short spire and seven to eight prominently convex whorls. The nuclear whorls number three and are diagonally decussate. The postnuclear whorls are sculptured with very prominent axial ribs which are crossed by thin, well defined uniformly spaced spiral cords; on the penultimate whorl the axial ribs number 14, the spiral cords 6. The ornamentation consists of very fine axial growth rugae and small pustules covering the depressions between the spiral cords. The suture is fine and there is no sutural shelf. The labial aperture is ovate and the siphonal canal is short and smooth. The sinus is shallow and occupies most of the shoulder. The parietal and columellar calluses are smooth and abruptly marked off from the surface ornamentation. The outer lip is thin.

Color: The ground color of the shell is creamy white, the pustules are brilliant white and the spiral cords reddish-brown. Over some of the axial ribs, however, the brown coloration of the cords is absent.

General appearance: The foot is a translucent creamy color, flecked on the sides and near the opening of the rhynchodaeum with brilliant opaque white. The siphon is uniformly cream colored.

Internal anatomy: The polyembolic proboscis (Smith, 1967) is much shorter than that of *Philbertia leufroyi boothi* (Text figure 1). There are two projections (br) on the mid-line of the floor of the rhynchodaeum (rh). The two major introvert retractor muscles (rm) send small bundles of fibers into each of the two small projections. The oral opening (oo) is surrounded by a thin circular muscle layer which thickens posteriad around the anterior oesophagus (oe). The epithelium surrounding the oral region and passing posteriorly for a short distance is densely ciliated. The glandular sheath (gs) which encircles the oral opening is short with a few thin muscle strands leading from the fold of the sheath to the wall of the cephalic haemocoel. After the oesophagus passes through the nerve ring (nr) it enlarges; gland cells replace the densely ciliated epithelium found in the anterior

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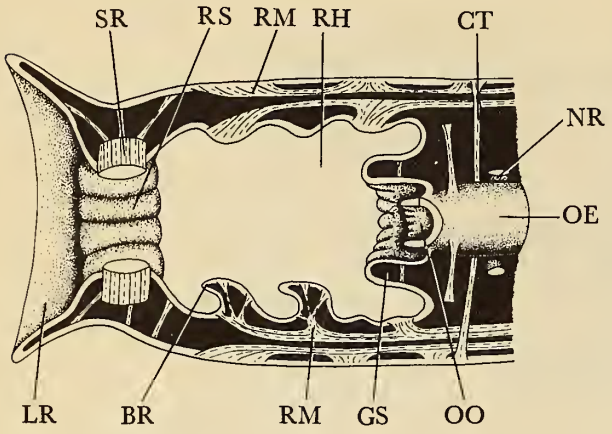

Figure 1

Cenodagreutes aethus

Idealized diagram depicting longitudinal section through the rhynchodaeum.

br mid-ventral bumps of the rhynchodaeum
ct circumoesophageal tensors gs glandular sheath
lr lip of the rhynchodaeum nr nerve ring oe oesophagus
oo opening of oesophagus rh rhynchodaeum
rm major retractor muscles of the rhynchodaeum
rs rhynchostome sr sphincter of the rhynchostome

region. There are no salivary glands, radular sac, or poison gland. The intestine is covered by a thin muscular layer and lined by ciliated cells. There is no anal gland.

Present in the male reproductive system (Text figure 2) is a large vesicula seminalis (vs) and a connective tissue strand (a remnant of the gonopericardial duct, gd) running from the vas deferens (vd) to the pericardial wall (pc). An opening (mo) connects the vas deferens to the mantle cavity and there is a convoluted prostate gland (pg) which opens into a short penis (p).

In the female system (Text figure 3) the gonadial oviduct (go) is composed of columnar gland cells and surrounded by a thick muscular layer. The renal oviduct (ro) is short, narrow, and enters the albumen gland (al) ventrally. There is no gonopericardial duct. The albumen gland is ciliated throughout with no subepithelial glands. The epithelium of the albumen gland becomes continuous with the posterior part of the capsule gland (cg). There is no pallial oviduct. A short, constricted muscular duct joins the anterodorsal part of the albumen gland with the ingesting gland (ig) and functions as a receptaculum seminis. The capsule gland has no ventral channel and opens into a small bursa copulatrix (bc). This bursa is muscular with a narrow lumen which opens directly into the capsule gland. The epithelium lining the capsule gland and extending a short way into the bursa is composed of gland cells.

Type specimens: The holotype was collected off Farland Point, Isle of Cumbrae, Firth of Clyde, Scotland (Lat.

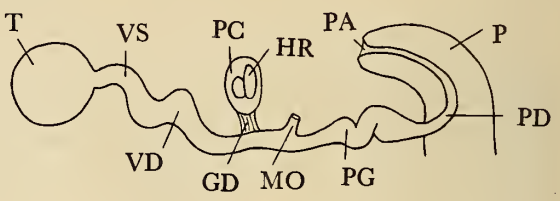

Figure 2

Cenodagreutes aethus

Diagramatic reconstruction from sections, of the male reproductive system.

gd gonopericardial duct hr heart
mo opening from vas deferens to mantle p penis
pa opening of penis pc pericardial wall pg prostate gland
pd duct from prostate gland t testis
vd vas deferens vs vesicula seminalis

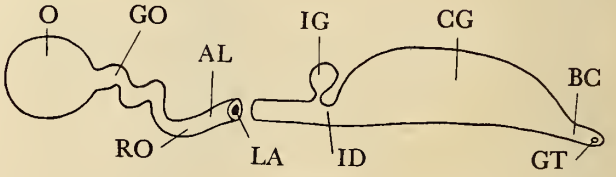

Figure 3

Cenodagreutes aethus

Diagramatic reconstruction from sections, of the female reproductive system.

al albumen gland bc bursa copulatrix cg capsule gland
go gonadial oviduct gt genital opening
id duct to ingesting gland ig ingesting gland
la lumen of the albumen gland o ovary ro renal oviduct

Explanation of Plate 1

Figure 1: *Cenodagreutes aethus,* a view of the shell aperture.
Figure 2: *Cenodagreutes aethus,* a view of the labial sinus.
Figure 3: *Cenodagreutes coccyginus,* a view of the shell aperture.
Figure 4: *Cenodagreutes coccyginus,* a view of the labial sinus.

Figure 1

Figure 2

Figure 3

Figure 4